

APPENDIX A

California Natural Gas Utilities and Other Entities Operating Within the State

I. Natural Gas Companies and Entities

The following is a list of companies and entities involved in the state's natural gas sector (excluding production, gathering and processing):

<u>Investor Owned</u> Utilities:

Alpine Natural Gas Operating Company: Provides distribution service to customers in Valley Springs.

Pacific Gas and Electric Company (PG&E): Provides transmission, storage and distribution service. Service territory is most of northern California, including San Francisco, Sacramento and Fresno. The utility has about 4.2 million gas distribution customers.

San Diego Gas and Electric Company (SDG&E): Provides transmission and distribution service. Service territory includes the City and County of San Diego and parts of Orange County. The utility has about 823,000 customers.

Southern California Gas Company (SoCalGas): Provides transmission, storage and distribution service. Service territory is most of southern California, including the Los Angeles Basin. The utility has about 5.4 million customers.

Southern California Edison Company: Provides distribution service to customers on Catalina Island.

Southwest Gas Company: Provides distribution service in California, Nevada, and Arizona. Service territory in California is primarily San Bernardino County and the Lake Tahoe area.

West Coast Gas: Provides distribution service at former Castle and Mather Air Force bases.

Publicly Owned Utilities:

City of Coalinga

City of Long Beach

City of Palo Alto

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City of Vernon

<u>Interstate Pipeline Companies Serving End Users in California:</u>

Kern River Gas Transmission Company

Mojave Pipeline Company

<u>Interstate Pipeline Companies that Enter California:</u>

Kern River Gas Transmission Company

Mojave Pipeline Company

North Baja Pipeline, LLC

Tuscarora Gas Transmission Company

El Paso Natural Gas Company

Independent Gas Storage Companies:

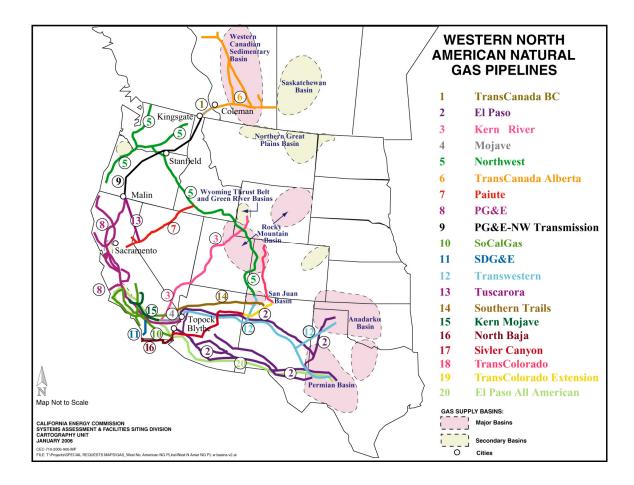
Lodi Gas Storage

Wild Goose Storage

II. Natural Gas Infrastructure

The following map shows the major natural gas transmission pipelines in the Western U.S. and connections between producing basins and California.

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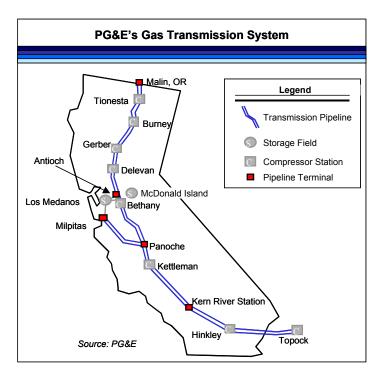
Note that the pipeline identified under number 8 in the map above is now known as Gas Transmission Northwest Pipeline and owned by Trans-Canada.

The following is a description of the natural gas infrastructure of the state's three largest investor owned utilities.

PG&E

PG&E's transmission system (referred to as its "backbone") is approximately 2,000 miles with 8 compressor stations. The utility can receive and deliver about 3,286 MMcf/d of natural gas, or more with storage withdrawals. PG&E's transmission and storage system is depicted on the following map.

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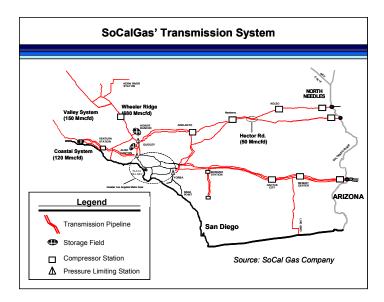
PG&E's distribution system consists of over 40,000 miles of gas mains and 2,000 miles of local transmission pipelines.

SoCalGas

SoCalGas' transmission system is approximately 2,875 miles with 11 compressor stations. The utility can receive and deliver about 3,875 MMcf/d, or more with storage withdrawals.

SoCalGas' transmission and storage system is depicted on the following map.

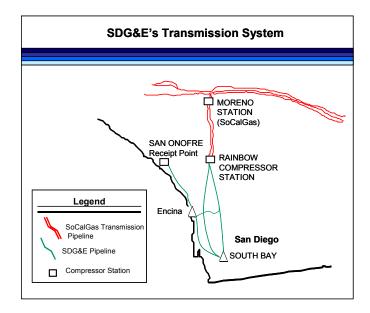
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SoCalGas' distribution system is approximately 93,900 miles.

SDG&E

SDG&E receives natural gas for its customers through connections with SoCalGas. The utility's transmission system is about 157 miles with 2 compressor stations. SDG&E's transmission system is depicted on the following map.



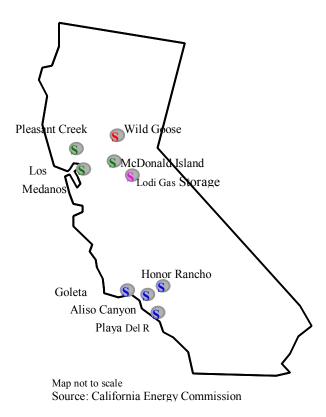
SDG&E's distribution system is approximately 14,200 miles.

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III. California Storage

California has storage capacity of approximately 261 billion cubic feet. Storage is provided in California by several companies. PG&E and SoCalGas provide storage service as well as two independent companies—Lodi Gas Storage and Wild Goose Storage. The independent storage providers only offer storage services and do not serve end users directly.

The following map shows the location of the state's storage facilities.



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APPENDIX B

Public Utilities Commission Regulation of California's Investor-Owned Natural Gas Utilities

The Public Utilities Commission regulates the rates, services and safety of investor-owned natural gas utilities operating within the state. One aspect of the Public Utilities Commission's responsibilities is to enforce laws requiring the utilities to charge their customers rates that are just, reasonable and non-discriminatory.

Different ratemaking approaches are used by the Public Utilities Commission to achieve its regulatory goals. Mostly cost-of-service principles are followed for rate setting and allocating costs to utility customers. Under this approach, the utilities are allowed only to recover the reasonable costs of serving their customers including a fair return on capital. Through the use of balancing accounts, the utilities' recovery of their fixed costs is not dependent upon natural gas sales (i.e., decoupled). In some cases, competition for certain services may exist (e.g., storage) or market conditions warrant less rigid ratemaking treatment. In these cases, a utility may charge rates negotiated with customers. Residential and commercial rates are set at two different tiers based upon usage. For residential customers, the first tier of usage is a baseline allowance, which is a quantity of gas "necessary to supply a significant portion of the reasonable energy needs of the average residential customer" (Public Utilities Code Section 739(a)). The baseline allowance is typically about 50 - 70% of average usage.

For some utilities, the Public Utilities Commission uses incentive mechanisms as a way to minimize costs and to lower rates to customers. For natural gas procured for residential and commercial customers, the utilities are rewarded or penalized if purchases are made below or above a market benchmark. Other mechanisms involve the sharing with ratepayers of excess earnings the utilities earn from cost cutting.

The Public Utilities Commission also has programs to assist low income utility customers cope with their natural gas bills. Under the California Alternate Rates for Energy program, eligible low income ratepayers receive a 20% discount off their otherwise applicable rates. A balanced bill payment option provided by the utilities enables low income customers as well as others to budget their utility expenses throughout the year with levelized charges.

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APPENDIX C

Natural Gas Transmission, Storage and Distribution System and GHG Emissions

As stated in the order amending R.06-04-009, the Public Utilities Commission will examine GHG emissions associated with the transmission, storage and distribution of natural gas. The following is a description of these activities and where GHG emissions could occur.

<u>Transmission:</u> Transmission pipelines are used to transport significant quantities of natural gas from producing basins to points nearer to consuming areas. Natural gas entering the transmission system has been processed to remove impurities and to meet necessary quality standards. Large diameter pipelines operated under high pressure are used for this purpose. Compressors are used to maintain the necessary operating pressure. Metering and regulating equipment is also used to monitor operations. Connecting local transmission and smaller distribution pipelines move the natural gas to end users although some large end users may be served directly from a transmission pipeline.

GHG emissions: Methane from leaks in compressors, pipes, flanges and from venting involved in maintenance, compressor starts, safety actions and other operations. CO_2 from compressor use.

Storage: Storage is used primarily for reliability purposes. Natural gas is injected into storage during the spring and summer and withdrawn to meet the high demand for residential heating in the winter. Additionally, storage may be used to take advantage of the seasonal differences in natural gas prices for hedging or financial gain. Typical storage facilities are depleted natural gas production fields and salt caverns. Storage facilities are connected to transmission pipelines.

GHG emissions: Methane from compressor leaks and venting. CO₂ from compressor use.

<u>Distribution</u>: Distribution pipelines (mains and service lines) are smaller diameter pipelines operated at reduced pressure. These pipelines are used to deliver the natural gas from the transmission system to end-users. Meters are used to measure the amount of natural gas consumed by each customer

GHG emissions: Methane from pipeline leaks and metering and pressure regulating stations.

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APPENDIX D

Public Utilities Commission Energy Efficiency Programs

I. Budget and Expected Results for Authorized Programs

In D.05-09-043, the Public Utilities Commission approved energy efficiency programs for the period of 2006 through 2008 for the large IOUs. The authorized budget for the natural gas-related programs during the three year term, including evaluation, measurement, and verification costs, is as follows:

Natural Gas Energy Efficiency Program Budgets for 2006 through 2008

Utility	Program Year	Budget
SoCalGas	2006	\$ 47,869,000
	2007	\$ 61,109,000
	2008	\$ 73,457,000
		\$ 182,435,000
SDG&E	2006	\$ 5,680,243
	2007	\$ 6,400,677
	2008	\$ 7,389,147
		\$ 19,470,067
PG&E	2006	\$ 36,000,000
	2007	\$ 42,000,000
	2008	\$ 52,000,000
		\$ 130,000,000
Total:		\$ 331,905,067

The expected savings in natural gas (excluding natural gas saved from reduced electric generation) and resulting reduction in CO₂ emissions from the authorized programs are as follows (see D.05-09-043, Tables and Attachments, Table 2):

Natural Gas Savings Statewide (excluding electric generation)	2006	2007	2008
Annual Net Gas Savings	33,648	40,716	47,625
(Mth/yr)			
Incremental Annual CO ₂	178,266	215,715	252,317
Savings (tons)	ŕ	ŕ	ŕ
Cumulative Annual CO₂	178,266	393,981	646,298
Savings (tons/year)	ŕ	ŕ	ŕ
Cumulative equivalent cars	33,874	74,865	122,810
taken off road each year	,	Ź	ĺ

Customers eligible to participate in the IOUs' natural gas related energy efficiency programs are limited to those customers who are assessed the public purpose program surcharge (mostly all gas utility customers except electric generators). This includes residential, commercial and large industrial customers. A separate energy efficiency program exists for low income utility customers.

II. Energy Savings Goals

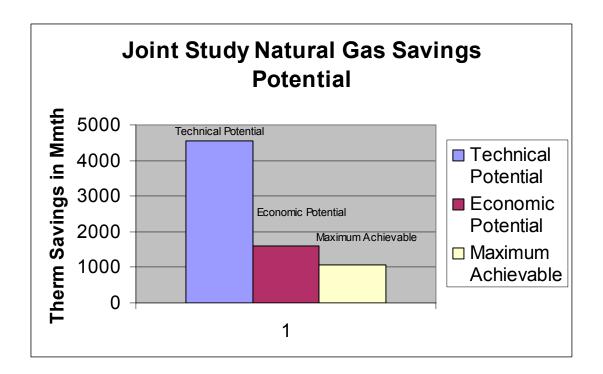
In D.04-09-060, the Public Utilities Commission adopted energy savings goals for the period of 2004 through 2013. These goals were adopted with the objective of capturing all the natural gas savings associated with the implementation of energy efficiency programs expected to be cost effective. The utilities use the approved energy savings goals in the development of their proposed energy efficiency plans for Public Utilities Commission consideration. The savings goals are to be updated every three years in concert with the Public Utilities Commission's energy efficiency program and budgeting cycle.

The adopted goals specific to natural gas usage excluding natural gas used for the generation of electricity are in the following table (see D.04-09-060, Table 1E). Emission savings are based on 5,298 metric tons of avoided CO_2 per million therms.

Total Natural Gas Savings Goals (Million Therms Per Year)										
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Annual Savings	21	21	30	37	44	52	54	57	61	67
Cumulativ e Savings	21	42	72	110	154	206	260	316	377	444
Cumulativ e CO ₂ emission savings in metric tons	111,258	222,516	381,456	582,780	815,892	1,091,388	1,377,480	1,674,168	1,997,346	2,352,312

In adopting the energy savings goals, the Public Utilities Commission considered a joint study prepared by its staff and that of the Energy Commission, with consulting assistance. The study analyzed potential natural gas savings that could be achieved under three scenarios over a 10-year period—technical potential, economic potential and maximum achievable potential.

Technical potential is the complete penetration of all measures that are technically feasible to install from an end-use and engineering standpoint. Economic potential is the portion of the technical potential that is cost effective when compared to supply-side alternatives. Maximum achievable potential is the amount of savings estimated to be obtained with an aggressive program. The following chart and table illustrate the natural gas savings under each scenario:



10 Year Natural Gas Savings Potential in MM therms				
Technical potential	4,559			
Economic potential	1,592			
Maximum achievable	1,057			

III. Low Income Energy Efficiency Programs

In D.06-12-038, the Public Utilities Commission adopted programs for the low income energy efficiency (LIEE) program for 2007 and 2008. The LIEE program provides weatherization, energy efficiency measures, minor home repairs and energy education. This helps customers reduce their energy bills and improve the comfort and safety of their dwellings. The 2 year budget approved in the decision for the utilities is as follows (PG&E's and SDG&E's budgets also include electricity related LIEE efforts):

Utility	Gas	Weatherization	Other	Total
	Appliances		Activities	
PG&E	\$12,553,480	\$27,514,324	\$115,399,196	\$155,467,000
SDG&E	\$3,195,686	\$7,808,716	\$15,723,240	\$26,727,642
SoCalGas	\$11,090,482	\$33,733,320	\$21,803,710	\$66,627,512
Total	\$26,839,648	\$69,056,360	\$152,926,146	\$248,822,154

In R.07-01-042, the Public Utilities Commission is looking into LIEE program objectives, integration with other energy efficiency programs, and other issues.

(END OF APPENDIX D)

(END OF ATTACHMENT A)